

ABSTRACT OF THE DISCLOSURE

A multibeam antenna includes: a photonic bandgap material (20) having at least one band gap; at least one periodicity defect so as to produce at least one narrow bandwidth inside the at least one band gap of the photonic bandgap material, and excitation elements (50 to 43) for enabling electromagnetic waves to be received inside the at least one narrow bandwidth. The excitation elements are mutually arranged so as to generate radiating spots (46 to 49) partly overlapping on one surface of the photonic bandgap material.